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EXAMINER

ASSAF, FAYEZ G

ART UNIT PAPER NUMBER

2872

DATE MAILED: 08/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/019,724

Applicant(s)

HALLDORSSON, THORSTEINN

Examiner

Fayez G. Assaf

Art Unit

2872

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 1/02/2002 (Pre-Amendment).
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3. 6) ☐ Other: _____

DETAILED ACTION

Specification

The substitute specification filed on 1/2/2002 has been entered.

Claim Objections

Claims 2, 10, 13 and 15-17 are objected to because of the following informalities:

Claim 2, line 3, the phrase "the view" lacks antecedent basis.

Claim 10, line 3, the phrase "the imaging" lacks antecedent basis. The phrase has been interpreted to mean "the imaging system."

Claim 13, line 6, the phrase "a surface cutout" renders the meaning of claim to be ambiguous. It is suggested to change the phrase "a surface cutout" to --a surface located in front--.

Claim 15, line 2, the phrase "the view" lacks antecedent basis.

Claim 16, the phrases "the angular", "the visual axis" and "the direction" lack antecedent basis.

Claim 17, the phrase "the driving state" lacks antecedent basis.

Appropriate correction is required.

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Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 13 is rejected under 35 U.S.C. 102(b) as being anticipated by Kato et al. (US 5,497,170).

Kato discloses a method for displaying images in motor vehicles comprising the steps of, projecting images on a holographic screen (2 of Fig. 13), guiding the light rays, coming from the holographic screen, into a viewer's eyes (6 of Fig. 13), producing virtual images in a surface located in front of the windshield by means of a hologram (located onto 25 of Fig. 13) connected in series to the holographic screen to provide ray deflection (See Fig. 13).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 3-5, 8-12 and 14, rejected under 35 U.S.C. 103(a) as being unpatentable over Kato et al. (US 5,497,170) in view of Kanda et al. (US 6,198,554).

Regarding claims 1 and 14, Kato discloses an imaging system for motor vehicles comprising, a projector (1 of Fig. 13), a holographic ray uniter (onto 15 of Fig. 13), which guides narrow band light (see Fig. 4a and 4b) to a viewer (6 of Fig. 13) to produce a virtual image (12 of Fig. 13) at the viewing location, a holographic screen (2 of Fig. 13) which scatters incident narrow band light of one or more wavelengths at a predetermined solid angle, wherein the projector projects the light onto the holographic screen to produce real images on said holographic screen (line 9 to line 16 of Col. 8), wherein the holographic ray uniter is inherently transparent to broad band ambient light, and wherein the narrow band light, scattered by the holographic screen is guided to the viewer. Kato does not disclose the holographic screen having a recording of a real screen.

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However, Kanda discloses a holographic recording of a frosted glass projection surface, which acts as a real screen, (line 28 to line 34 of Col. 7, line 20 to line 27 of Col. 13, Fig. 29).

It would have been obvious, at the time the invention was made, to a person having ordinary skill in the art to utilize the teachings of Kanda in recording a holographic screen real for the purpose of producing uniformly bright projected images.

It is noted that the phrase "holographic shooting" has been interpreted to mean holographic recording.

Regarding claims 3 and 4, the combination discloses the holographic ray uniter/mirror being arranged from viewer's view, at least one of, in front of and on the windshield of the motor vehicle (Kato, claim 14).

Regarding claim 5, the combination discloses the ray uniter being a ray deflector with lens function (i.e. due to the curvature of the windshield).

Regarding claim 8, the combination discloses the ray uniter being disposed on a transparent plate (Kato, see Fig. 15).

Regarding claim 10, the combination inherently discloses a device for coupling the imaging system to the motor vehicle control functions (Kato, line 59 to 60 of Col. 4).

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Regarding claim 12, the combination discloses one of the ray uniter and the holographic screen being designed and arranged in such a manner that they exhibit an imaging function (i.e. real image is formed onto holographic screen and virtually imaged by holographic uniter).

Regarding claim 11, the combination discloses the uniter and the screen being arranged in such a manner that the light cone coming from the ray uniter is limited to the possible dwelling space of the viewer's eyes (see Fig. 13, line 62 to line 64 of Col. 64).

Regarding claims 9, the combination discloses the claimed invention except for expressly teaching the uniter and the screen being arranged in such a manner that the virtual image appears for the viewer enlarged behind the windshield of the motor vehicle at a distance of at least 1.5 meters.

However, determining the distance at which images are viewed is achieved by routine experimentation which does not serve as basis for patentability.

It would have been obvious, at the time the invention was made, to a person having ordinary skill in the art to determine the distance to be at least 1.5 meters so as to include many possible meter readings at comfortable distance for visual readout. It has been held that discovering an optimum value of

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a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kato et al. in view of Kanda et al. as applied to claim 1 above, and further in view of Nanba et al. (US 4,832,427).

The combination discloses the claimed invention except for the projector comprising lasers with the primary colors red, green and blue and an image modulator.

However, Nanba discloses such lasers and a modulator (line 35 to line 55 of col. 8) in a similar optical device (see Fig. 13). It is noted that one of ordinary skill in the art appreciates that the different colors Nanba refers to are the primary colors.

It would have been obvious, at the time the invention was made, to a person having ordinary skill in the art to utilize the teachings of Nanba in the combination so as to produce colored images of the different meters.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kato.

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Kato discloses the claimed invention except for the angular distance between the visual axis in the direction of travel and the virtual image being less than 30 degrees.

However, determining such an angle is achieved by routine experimentation which does not serve as basis for patentability.

It would have been obvious, at the time the invention was made, to a person having ordinary skill in the art to determine the angle to be less than 30 degrees so that the driver can maintain his/her eyes on the road. It has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kato et al. in view of Kanda et al. as applied to claim 1 above, and further in view of Official Notice.

The combination discloses the claimed invention except for the camera system, which is coupled to the projector, recording images outside the motor vehicle to enable a view to at least one of the rear and the side.

However, the utility of a camera to supply images of an outside view to a projector in a vehicle is well known in the art.

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It would have been obvious, at the time the invention was made, to a person having ordinary skill in the art, to utilize such a camera for the purpose of observing the environment around the vehicle, thereby avoiding any blind spots.

Claims 15 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kato et al. in view of Official Notice.

Kato discloses the claimed invention except for images of a view being from at least one of the rear and the perspective of the motor vehicle side mirrors, or the images being displayed as a function of the driving state or the motor vehicle control functions.

However, the utility of a camera to feed images of an outside view to a projector in a vehicle is well known in the art.

It would have been obvious, at the time the invention was made, to a person having ordinary skill in the art, to utilize such a camera for the purpose of observing the environment around the vehicle, thereby avoiding any blind spots.

The combination discloses the (virtual) images being faded into the peripheral area of the windshield (see Fig. 13).

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The combination discloses the images being inherently displayed as a function of the driving state (e.g. when vehicle moves backwards, rear view is displayed).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fayez G. Assaf whose telephone number is (703) 306-5526. The examiner can normally be reached on 8-5 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor Drew Dunn can be reached at (703) 305-0024. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Fayez G. Assaf
Examiner
Art Unit 2872

8/5/2003

